

Exercise – Screen Output

1. Without using Python, predict what the output would look like for the following statements. Confirm using Python. Create a new Python file (.py) and test out each program. If an error occurs, indicate how you would correct it.

Program	Output
<code>print ("hello there")</code>	hello there
<code>print ("5+2")</code>	5+2
<code>print ("\tDoh\nDohDoh:")</code>	Doh DohDoh:
<code>print ("Hello")</code> <code>print ("My name\nis\nname")</code>	Hello My name is name

Exercise – Screen Output

print ("name")	
print ("\t\tx\n\nx")	\t\t\t\tx\n x
print ("abc"*5)	abcabcbcabcbcabc
print ("cup" + "cake")	cupcake
print ("cup " + "cake")	cupcake
print ("hello ", end="") print ("there")	hello there
print ("I said \'get to work!!!!\' ")	I said 'get to work!!!!'
print (\ "I am so smart")	I am so smart
print (" \'help\' ")	'help'
print ("hi\bthere)	hithere

2. Write programs to produce the following output. Minimize the number of characters in string literals. That is: `print("a"*3)` uses less string literals than `print("aaa")`. In addition, all of the following output can be accomplished using only one print command.

Output	Program
HI	print (“HI”)
hihihihihihihihi	print (“hi”*7)
Hihihihihihihihihhi	print (“hi”*8)
Sorry I’m late Sorry I’m late	print("sorry I'm late""\n"*3)

Exercise – Screen Output

Sorry I'm late	
'Hi there'	print ('Hi there')

3. Without using Python, predict what the output would look like for the following statements. Confirm using Python. If an error occurs, indicate how you would correct it.

Program	Output
print (5)	5
print (4 / 3)	1.3333333333333333
print (4.0 / 3.0)	1.3333333333333333
print (4 / 3.0)	1.3333333333333333
print (4.0 / 3)	1.3333333333333333
print (35 % 3)	2
print (5 + 3 + 1000 - 20)	988
print (2 * 4 - 6 / 2 + 3)	8.0
print ((2+5) * (3.0 / 2))	10.5
print (5 % 4 * 3)	3
print (5 * 4 % 3)	2

4. Use Python to find the answers to the following math questions. Make sure to add in an asterisk for multiplication if it doesn't already exist. Write in the answer.

Question	Answer
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Exercise – Screen Output

a) $(452 + 323) * (221 - 211)$	7750
b) $((2*(2 + 2) + 2 * 2) + 2)$	14
c) $35/7 + 2 * 3 - 4$	7.0
d) $(113 - 211) * 23$	-22736
e) $-3 * -2 * -1$	-6
f) $3(22+11) - 4(17-13)$	83

5. Write programs to produce the following output. Minimize the number of characters in string literals. That is: `print("a"*3)` uses less string literals than `print("aaa")`. In addition, all of the following output can be accomplished using only one print command.

2	<code>print(2)</code>
aaa222	<code>print("a"*3+"2"*3)</code>
Sixty is equal to 60	<code>print("Sixty=60")</code> OR <code>print(Sixty is equal to 60)</code>
1one2two3three4four5five	<code>print("1one2two3three4four5five")</code>
4+2=5	<code>print("4+2=5")</code>

6. Write the program to produce the following output. Minimize the number of characters in string literals. Shorten this question to use only one print statement. (note ^ represents **one space** and > represents **a new line**. This is to help you format your string). Copy and paste your code in the empty box.

Output	Program
<pre> 5 ^^^3 5*2=10 My name is^^^^^^^George!!!! 3.0^^10.563^^harry > > > I^think^I^got^it!</pre>	<pre> print("5 \n 3\n5*2=10\nMy name is George!!!!\n3.0 10.563 harry\n\nI think I got this")</pre>

7. Write the program to produce the following output. Minimize the number of characters in string literals. Copy and paste your code in the empty box.

Output	Program
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Exercise – Screen Output

Num^^^Square * * * ***** 1 1 2 4 3 9 4 16 5 25 > 1*1=1 2*2=4 3*3=9 4*4=16	print("Num Square\n*** *****\n1\t1\n2\t4\n3\t9\n4\t16\n5\t25\n>\n1*1=1\n2*2=4\n3*3=9\n4*4=16")
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BONUS: (This is not a requirement but try it in class if you are ahead)

Write the code to output this text to the screen:

```
/ _ _ | / _ | / _ | _ _ _ _  
| | _ _ // | / / // | | _ _  
| | _ // _ | // / | | | _ _  
| | | // | // / | | | _ _  
\_ _ // / | / / | | | _ _
```

Copy and paste your code in the box below: